Policy Brief # **47**

Climate change and heat-waves: Rural-to-Urban Migration in Pakistan A silent looming crisis

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Introduction

Over the past 20 years, new insights have been gained about climate-human interactions. The latest assessment report of Inter-governmental Panel on Climate Change (IPCC) projects that the magnitude of human displacement and migration may rise during the 21st century due to climate change. Quantitative research on the relationship between migration and climate change is however limited, given the complexity and unpredictability of climate-induced migration patterns (Black et al. 2011), and the heterogeneity in human responses towards climate change. Moreover, the uncertainty surrounding climate science itself presents a challenge to predict precisely the impact on human settlements (Banerjee et al. 2011).

The problems being faced by most developing countries are further exacerbated by the challenge of urbanisation that seems to couple with climate-induced migration (ADB 2012). While a substantial proportion of populations in developing countries lives in rural areas, it remains unknown as to how many people migrate internally from rural areas in response to climate change. This is important to understand because rural livelihoods are mainly based on agriculture, and climate-induced losses in agricultural productivity can alter rural incomes (Bartnett & Adger 2007; Mueller et al. 2014), which can potentially scale up urbanisation.

Considering these issues, in this policy brief we summarise findings and recommendations of our recent study (i.e. Saeed et al. 2015) on climate-induced internal migration in Pakistan.

Pakistan's Context

Pakistan is a low-middle income country of 188 million people that is challenged by problems of urbanisation, rural poverty, and associated agricultural productivity losses. It is ranked low in human development, with rural-urban disparities in poverty, income and development. Rural poverty is widespread, but more pronounced in arid and semiarid zones. The country's urban areas that are home to one-third of total population contribute 78% to the national GDP (WB 2014; Hussain 2014). With an urbanisation rate of 3% per annum (Kugelman 2014), many Pakistani cities have informally grown into large agglomerations with about 35% to 50% of urban population reportedly living in slums (WB 2014; Kugelman 2014). The government projections show that by 2030, more than half of Pakistan's population will be residing in urban areas (GoP 2014). Such estimates do not take into account the effects of climate change on urbanisation, rural-urban migration, and population growth.

Agricultural productivity in rural areas is affected through changes in climate variables (such as average temperature and rainfall). Heat stress in particular has shown to affect agricultural productivity of winter crops (Qin et al. 2014) like wheat, a staple food which is grown in arid and semiarid areas of Pakistan. According to a long-term study conducted by Mueller et al. (2014) in Pakistan, heat stress/wave in the winter season triggered migration from rural areas. The study provided evidence that, to some extent, climate change may play a role in pushing up rural to urban migration, which presently constitutes 40% of total internal migration in the country (Arif 2005).

Despite this, the issue of migration receives little attention in Pakistan's rural-urban development planning. For example, the prevalence of poverty in rural and urban areas influences migration and urbanisation patterns but the government's Poverty Reduction Strategy Paper (PRSP) and recently approved Vision 2025 fail to provide any strategy relevant to urban planning or migration. At the policy level, a draft National Emigration Policy exists, but it discusses international migration issues exclusively with no focus on internal rural-urban migration. Similarly, the Labour Policy of Pakistan although makes a fleeting reference to the overseas migrant labour, it does not acknowledge the potential that internal migrants hold for Pakistan's economic growth and development.

The study on which this policy brief is based (i.e. Saeed et al. 2015) indicates that climate change acts in combination with many other socioeconomic determinants of migration. Climate shocks and slow-onset changes impact ecological conditions in rural areas that trigger shifts in agricultural productivity, thus eroding incomes of poor and marginal cultivators. Rural households make take migratory decisions to escape from losses in rural incomes that may be aggravated by climatic stress. The study by Saeed et al. (2015) predicts that such changes are likely to be magnified by 2030 in arid and semiarid areas that are important in terms of wheat production, and are home to a large rural population. Given the sensitivity of wheat crop to heat-stress, it is anticipated that decline in wheat production will affect the rural poor and marginal households across Pakistan, who will be forced to cope with the situation. When coupled with prospects for improved life in urban centres, this will incentivise the poor rural population to out-migrate. Thus, while variability in weather patterns play a role in influencing migration patterns, the development deficit in Pakistan's semiarid rural areas, paralleled by higher investments in urban centres, together lure potential migrants from rural to urban settlements.

Recommendations

- **Managing rapid urbanization:**
  The study results show that rural-urban migration may contribute to unplanned urbanisation and expansion of mega cities like Karachi, Lahore, and Faisalabad, which may disrupt urban well-being. Therefore, one viable solution to overcome this challenge is to develop *intermediate cities or towns* (Jamal & Ashraf 2004), which can serve as pivots between large cities and rural areas by facilitating access to markets for agriculture outputs (Hussain 2014).

- **Monitoring of internal migration:**
  The dearth of adequate data on rural-urban migrants hinders monitoring of internal migration flows, which presents a challenge to informed decision-making. Therefore, this study proposes a *National Registration Systems* that can capture population mobility data across Pakistan.

- **Risk management in agriculture sector:**
  To improve farm productivity and protect poor farmers against climate-stresses, climate risk management in agriculture sector needs to provide innovative location-specific climate-smart technologies and financial support mechanisms to millions of small farmers' in Pakistan. This will enhance their potential to cope and adapt during/after climate shocks (such as crop insurances to protect crop failures, and revitalization of agriculture extension department).

- **Improved rural and urban service delivery through decentralized governance:**
  The revival of local governments under the 18th Constitutional Amendment is important to control rural to urban migration, as it may improve service delivery for rural and local populations. This would however need to be complemented by improved service provision in urban slums as well, which are likely to absorb influx of informal rural migrants.

- **Integrated approach to 'climate-proof' development:**
  Given Pakistan's high vulnerability to climate change and its existing level of development challenges, the country requires an integrated and multi-sectoral approach to climate-resilient economic development. Sectoral policies on population, agriculture and food security, environment, poverty alleviation and economic growth need to propose and finance specific measures for climate-resilience, as highlighted in National Climate Change Policy 2012 and Framework for Implementation of Climate Change Policy (2014-2030).

References

1. Black, R, Bennett, SRG, Thomas, SM & Beddington, JR 2011, 'Climate change: Migration as adaptation', Nature, vol. 478, no. 7370, pp. 447-449, doi: 10.1038/478477a .

2. Banerjee, S, Gerlitz, JY, & Hoermann, B 2011, Labour migration as a response strategy to water hazards in the Hindu Kush-Himalayas, Kathmandu: International centre for integrated mountain development. Available at: http://lib.icimod.org/record/26921/files/attachment_739.pdf

3. ADB 2012, Addressing Climate Change and Migration in Asia and the Pacific, Hugo, G, Bardsley, D, Sharma, V, Tan, Y, Williams, M, & Bedford, R (eds), Asian Development Bank, Mandaluyong City, Philippines. ISBN: 978-92-9092-611-5.

4. Barnett, J & Adger, WN 2007, 'Climate change, human security and violent conflict', Political Geography, vol. 26, no. 6, pp. 639-655.

5. Mueller, V, Gray, C & Kosec, K 2014, 'Heat stress increases long-term human migration in rural Pakistan', Nature Climate Change, vol. 4, no.3, pp. 182–185,doi:10.1038/nclimate2103.

6. WB 2014, Pakistan: Country snapshot, no. 91629, World Bank Washington, DC. Available at: http://documents.worldbank.org/curated/en/2014/10/20306064/pakistan-country-snapshot

7. Hussain, I 2014, 'Urbanization in Pakistan', Keynote address delivered at South Asia Cities Conference and Pakistan Urban Forum, Jan 9, 2014.

8. Kugelman, M (ed) 2014, Pakistan's runaway urbanization: What can be done? Wilson Center. ISBN: 978-1-938027-39-0.

9. Qin, D, Plattner, GK, Tignor, M, Allen, SK, Boschung, J, Nauels, A, ... & Midgley, PM 2014, Climate change 2013: The physical science basis, pp. 1535, T. Stocker (Ed.), Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press Cambridge, UK, and New York.

10. Arif, GM, 2005, 'Internal migration and household wellbeing: Myth or reality', Internal Labour Migration in Pakistan, IDE Discussion Papers 72, Institute of Development Economies, Japan External Trade Organisation, Chiba, Japan.

11. Saeed, F, Salik, KM, Ishfaq, S 2015, ODI Working Paper, 'Climate Induced Rural-to-Urban Migration in Pakistan (Accepted)